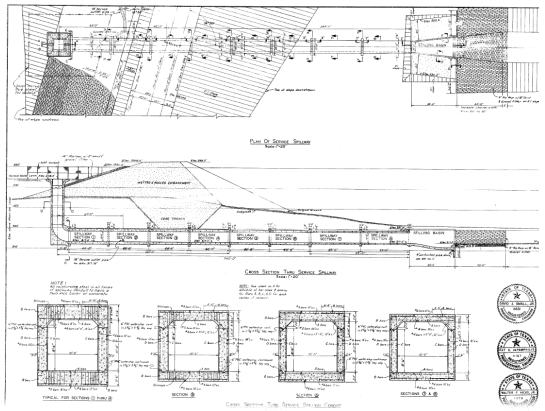
Schnabel ENGINEERING

FRANKLIN COUNTY WATER DISTRICT

carollo Engineers...Working Wonders With Water™

Franklin County Dam
Project Overview







Schnabel's General Work History

- Performed a historical document review to characterize the history of the structure and past work performed by others (2019).
- Performed geotechnical subsurface exploration to obtain samples, perform laboratory testing and install Vibrating Wire piezometers (2020).
- Performed Cone Penetration Test (CPT) soundings to better characterize the strength of foundation materials that could be potentially soft or weak (2021).
- Performed slope stability modeling of a representative embankment cross-section under various loading conditions to estimate the factor of safety against slope failure (2021).
- Submitted draft geotechnical report to TCEQ on January 12, 2022 following FCWD BOD approval during the November 16, 2021 meeting. TCEQ generally concurred with the approach as described in a letter dated February 2, 2022.

Schnabel's Ongoing Work

- Schnabel's proposal for final design services authorized by FCWD on August 19, 2022.
- Ground-run topographic survey performed.
- Supplemental geologic exploration (test pit samples).
- Multi-phase geotechnical laboratory testing program – complete.
  - Index and dispersive testing – pre-treated buttress samples.
  - Index and dispersive testing – post-treated buttress samples.
- Filter drain analyses.
- Drawings and Technical Specifications (~30%).

Site Photos – Buttress Erosion and Jugholes

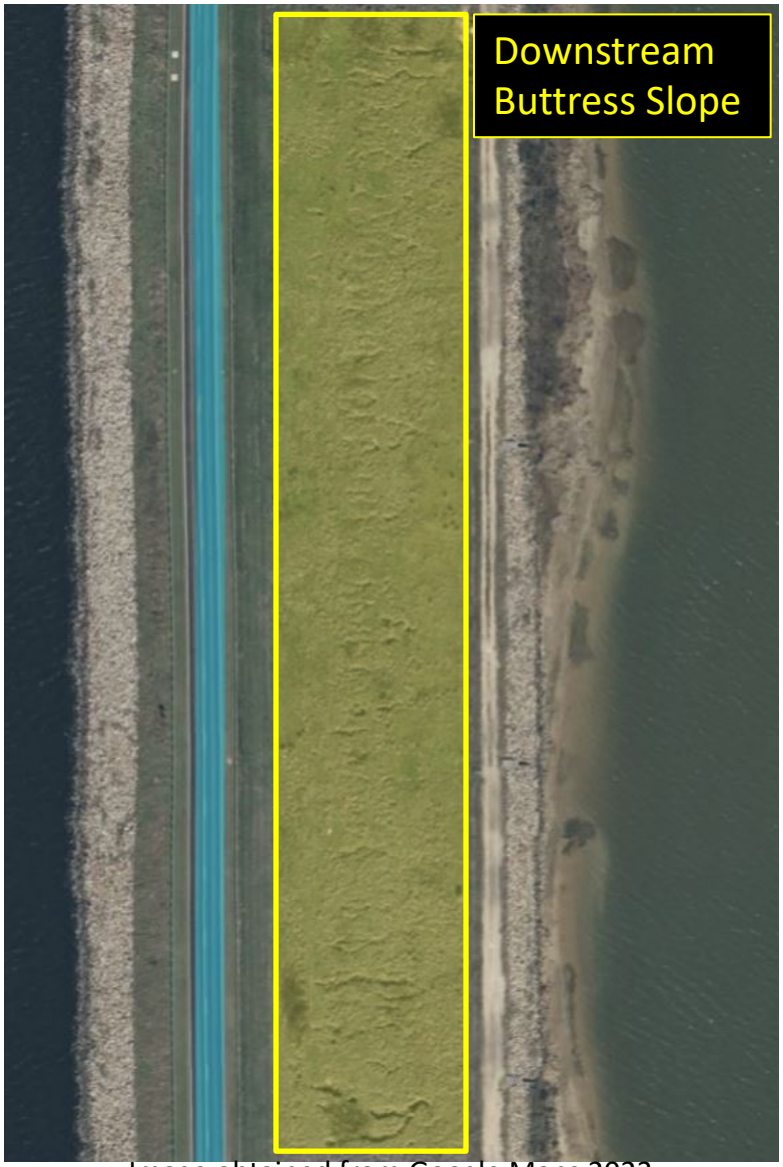


Image obtained from Google Maps 2023





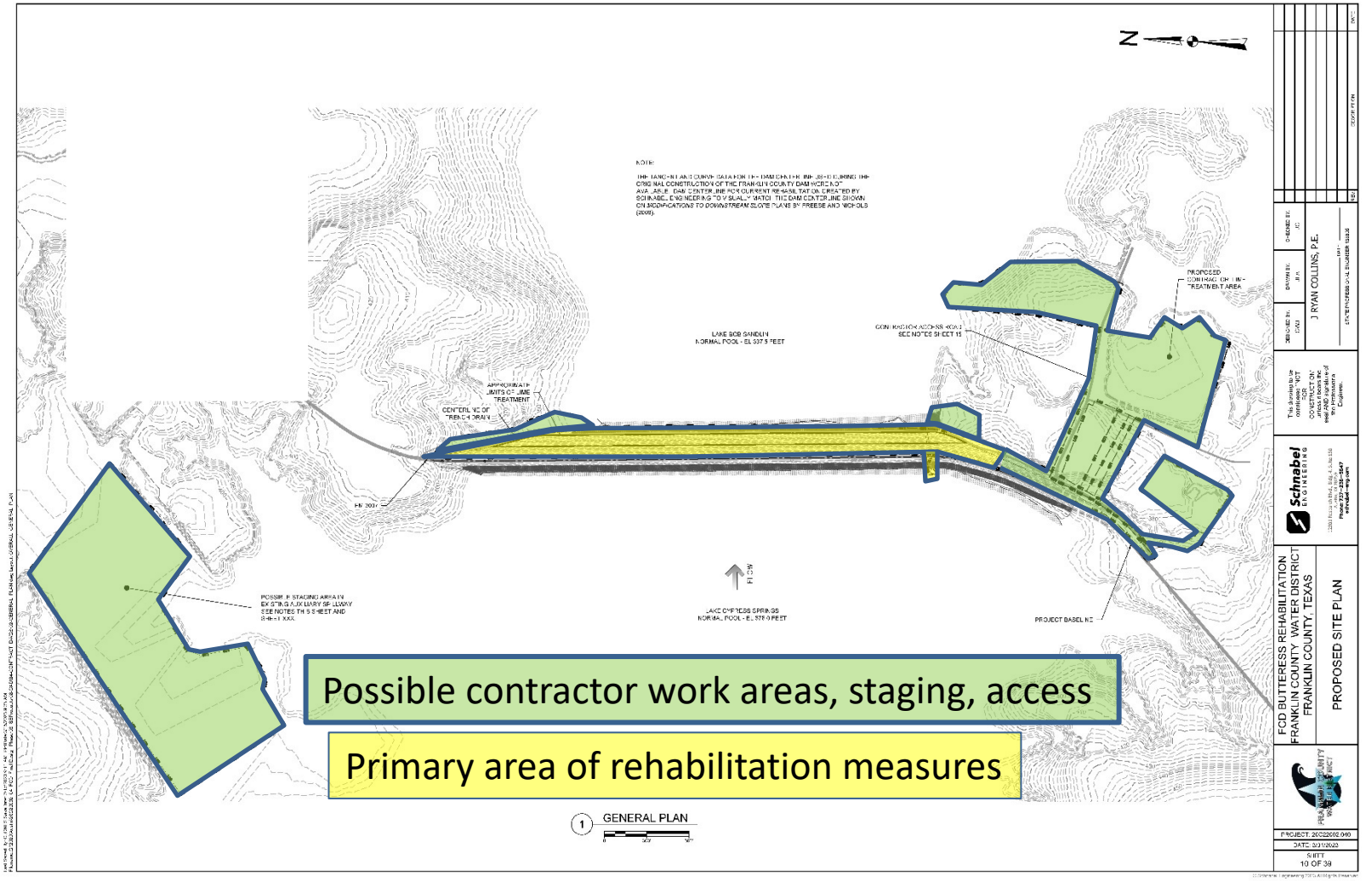
Preliminary Remediation Recommendations

- Remove and reconstruct the downstream buttress with lime-treated earth fill.
- Construct a proper filter drain between the original embankment fill and the buttress fill and into the foundation.

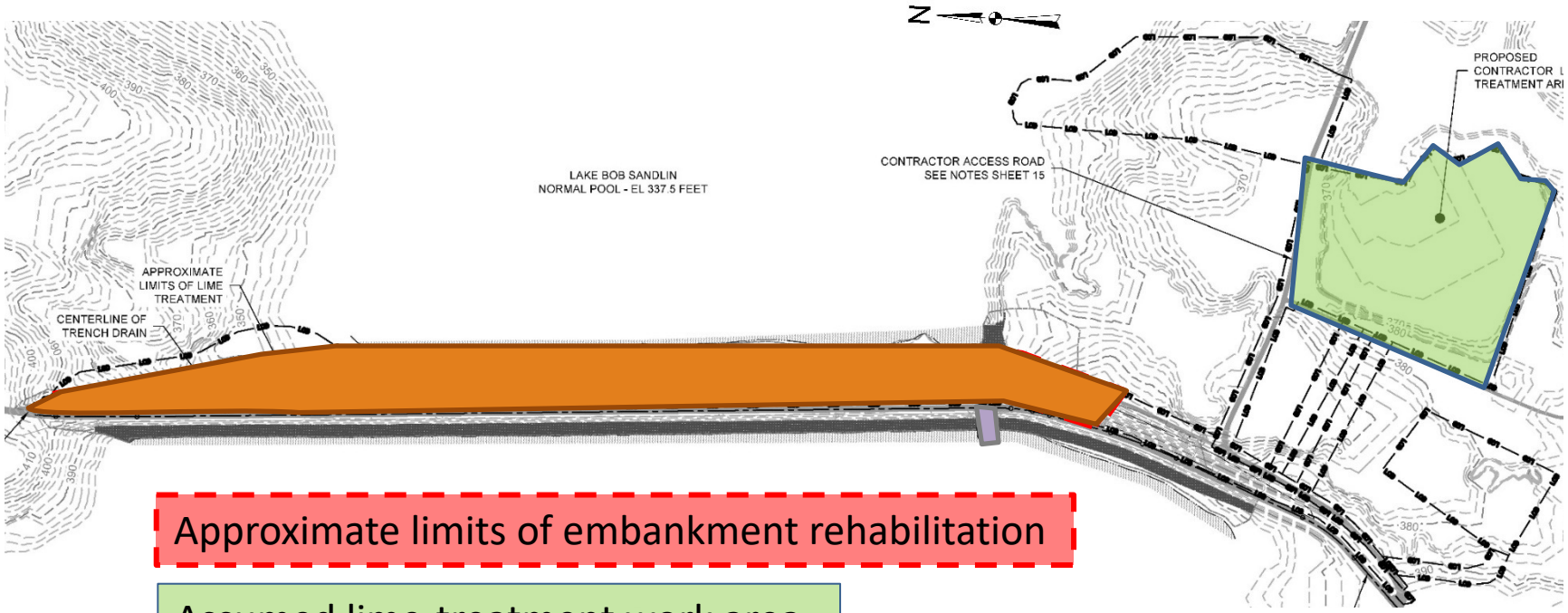
Associated Work by Others

- USACE 404 Permitting – Arroyo Environmental Consultants. (Schnabel assisting).
- Funding assistance – Carollo Engineers Inc.
- Routine monitoring and maintenance – Being performed by Franklin County Water District.

Proposed Site Plan



Proposed Site Plan



Approximate limits of embankment rehabilitation

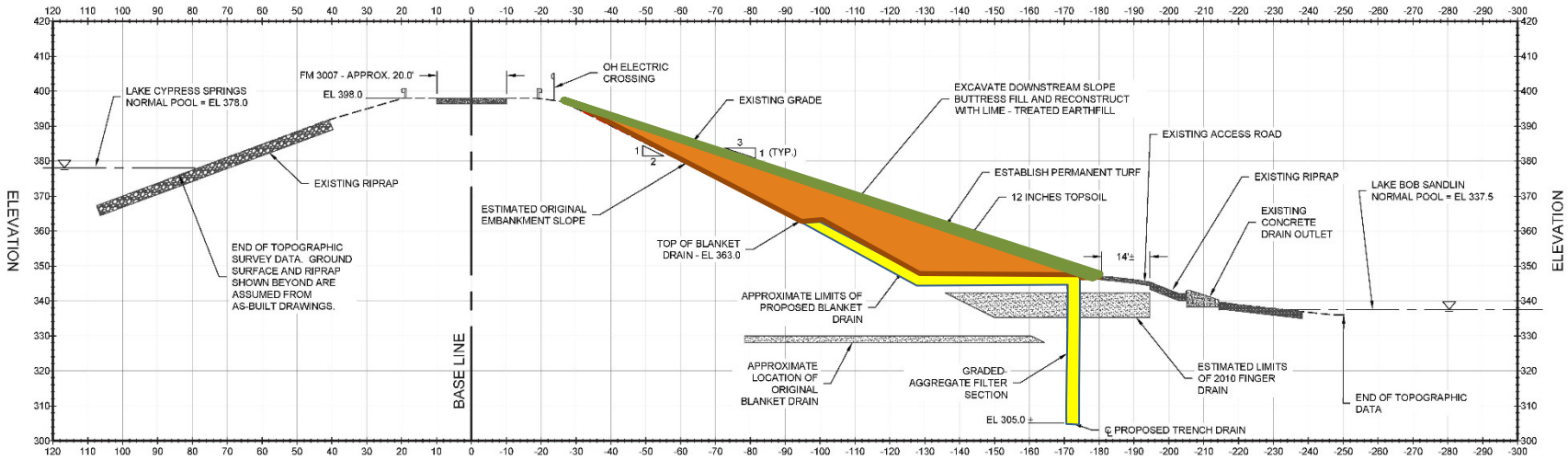
Assumed lime-treatment work area

Approximate limits of proposed graded-aggregate filter blanket and trench

Approximate limits of treated earthfill buttress replacement

Location of principal spillway access bridge repairs

Proposed Cross-Section (Typical)



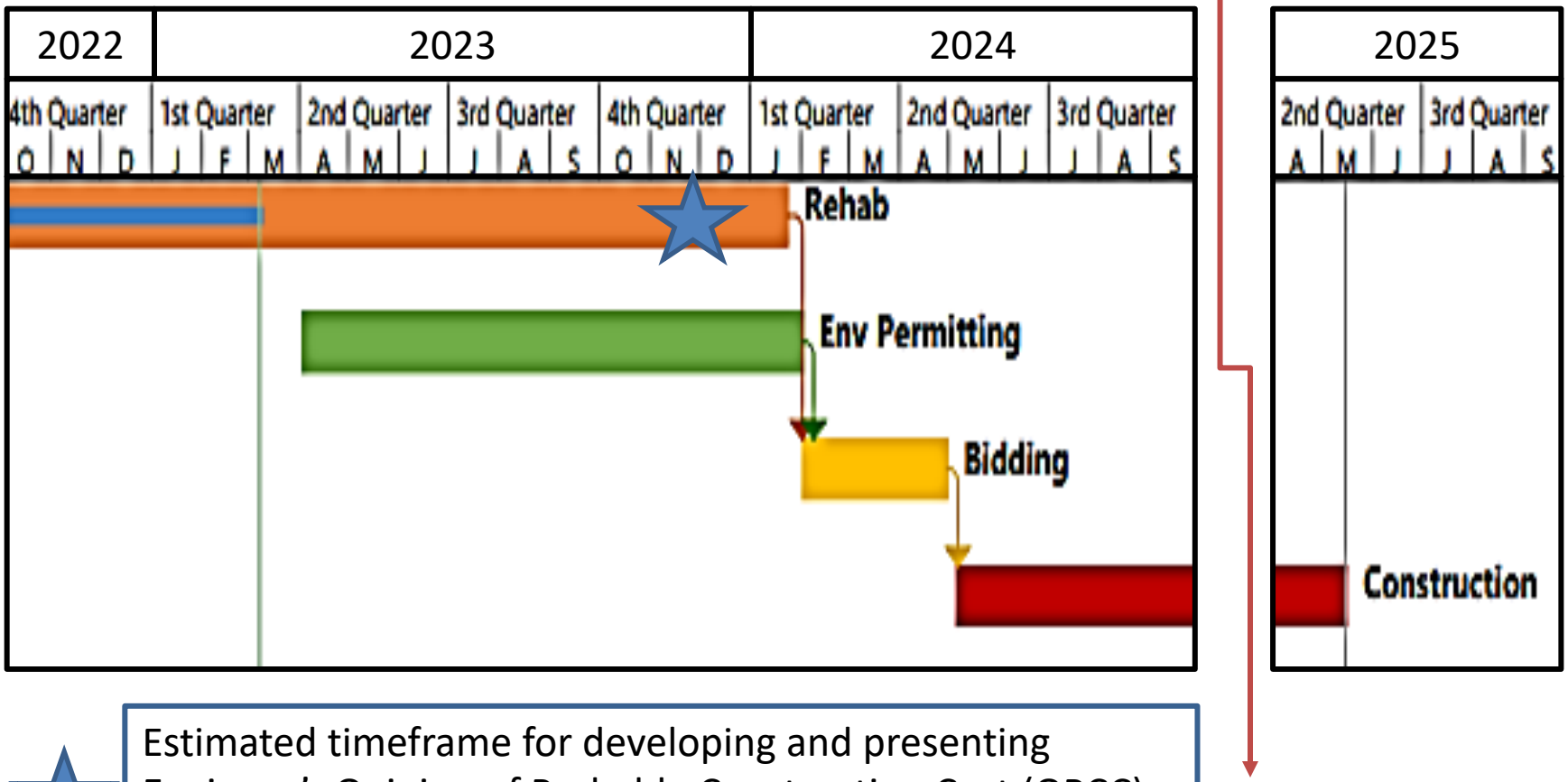
Approximate limits of buttress fill to be removed, treated, and replaced

Approximate limits of proposed filter drain

Approximate limits of treated earth fill buttress replacement

Permanent turf to be established over new earth fill

Estimated Project Schedule



Estimated timeframe for developing and presenting Engineer's Opinion of Probable Construction Cost (OPCC): 90% completion stage, following TCEQ/FCWD Comments

Questions and Discussion

Schnabel ENGINEERING

Build Better. Together.

FRANKLIN COUNTY WATER DISTRICT

carollo

Engineers...Working Wonders With Water™